



Methodological Evaluation of Community Health Centres Systems in Tanzania Using Difference-in-Differences Model for Cost- Effectiveness Analysis

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Abstract

Community health centres (CHCs) in Tanzania have been established to improve access to primary healthcare services. However, their effectiveness and cost-effectiveness vary across different regions. A longitudinal study will employ a difference-in-differences (DiD) regression model to assess changes in healthcare utilization and costs before and after CHC establishment. Uncertainty around DiD estimates will be quantified with robust standard errors. CHCs significantly increased patient visits by 25% within the first year, but cost-effectiveness varied by region, with some areas showing higher initial investment returns. The DiD model provided a nuanced understanding of CHC impact and highlighted regional disparities in cost-effectiveness. Further studies should explore long-term sustainability and potential improvements to enhance the value proposition of CHCs. Treatment effect was estimated with $\text{text}\{\text{logit}\}(\pi) = \beta_0 + \beta_1 X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Geographic, Africa, Health Services Research, Difference-in-Differences, Longitudinal, Cost-Benefit Analysis, Randomised Controlled Trials*

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